

Michael Stone

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December, 2021

Education

BA with High Honors, Math & Stats + English *Swarthmore College* 4 years.
Security, Safety, Systems, Management, Leadership *OLPC + Akamai* 14 years.

Selected Skills & Conversation Topics

legend :current, :recent, :nascent/lapsed

programming :C, :C++, :Go, :Rust, :R, :Nix, :Python, :PHP, :Swift, :Haskell, :Lua, :VHDL, :T_EX, :PyTorch
web tech :XML, :HTML, :CSS, :SQL, :JS, :RDF, :DNS, :HTTP, :TLS, :SMTP, :IMAP, :XMPP, :Atom
tools :git, :p4, :Make, :autotools, :klee, :s2e, :LLVM IR, :CPSA, :Coq, :Alloy, :DIVINE, :Minion, :Z3
network :IEEE 802, :802.11b/g, :IPv4, :IPv6, :TCP, :UDP, :AWS, :Azure, :GCP
safety :STPA, :CAST, :intent specifications, :asking good questions, :finding answers, :history
math :algebra, :real analysis, :topology, :probability, :statistics, :queueing theory, :control theory

What I Bring

Craft: I find or improvise necessary tools.
Care: I care for the people around me.
Inspiration: I inspire; we achieve together.
Perspective: I perceive broadly and deeply.
Independence: I am highly self-motivated.

What You Bring

Opportunity: What will we accomplish?
Realism: What terrain are we playing on?
Culture: What do you tolerate? reward? celebrate?
Comp: How much will my work be worth to you?
Location: This year, remote or Greater Boston only.

Employment Précis

Sr. Researcher → **Chief Architect**, Information Security, *Akamai Technologies, Inc.* 2009-2021

From 2009-2021, I advanced and embodied the Akamai information security group's goal of "being a helpful guide to a safer destiny for Akamai, our customers, and the internet community" as the company grew its annual revenue from \$850M to >\$3B and its headcount from 2000 to >8000 by developing and leading Akamai's approach to security and safety architecture as a director, people & hiring manager, individual contributor, sensemaker, strategist, system designer, change leader, team member, confidante, and trusted incident responder.

My responsibilities and accomplishments over this time include: co-leading and governing Akamai's technical crisis response process, solving thorny acquisition integration problems, mitigating critical internet security and general operational crises, company-wide change management, support for global regulation like GDPR, novel large-scale distributed system and protocol development, process development, and broad-spectrum technical and social development of individual contributors and managers.

Software Developer → **Release Manager**, *One Laptop per Child* 2007-2009

In 2008, I built portions of OLPC's "Bitfrost" security system including its activity isolation framework, parts of its software theft deterrence system, and its secure update system. This work addressed the technical problem of safeguarding the education of hundreds of thousands of children and the commercial problem of convincing governments to purchase Linux-based educational laptops.

Next, after that work shipped and the pre-existing release process decayed through staff turnover, I defined a new release process and, working in concert with representatives from product management, quality assurance, engineering, and the executive team, I guided a distributed team of employees, contractors, and community members which integrated changes that closed approximately 1,000 tickets, including a complete UI redesign over the following 34 weeks. The release shipped within 6 weeks of the target month, with only two serious regressions, to positive reviews on Amazon and in the OLPC software community at large.

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Role Spotlights

As a People Manager, I supported and developed:

...six staff who I hired and two more who came to me via assignment. Since working with me, these staff-members have been promoted to titles including Senior Researcher, Architect, and Senior/Principal/Chief Architect. One staff-member who worked with me also now runs an independent business.

Why this mattered: Akamai of 2009-2020 relied on its architects for independence, initiative, expertise, organizational know-how, judgment, and to maintain institutional memory. By creating new architects, I helped Akamai to scale.

As a Systems Architect and Process Owner, I designed:

...Akamai's response to diverse opportunities and crises alike. Here, my proudest contributions include: introducing →STAMP to Akamai, leading dozens of product security engagements and incident reviews some of which changed the direction of the company, evolving the product security review process, the incident review process, and the practice of incident management, and sharing new mental models with hundreds of colleagues along the way.

Why this mattered: individual people, the systems they run, and the institutions they inhabit mediate almost everything that happens on the Internet. As a systems architect and process owner, I took responsibility for shaping and nurturing a swathe of key players. In this way, my work provided the *teachable, reproducible, apt* perspective Akamai and our customers needed for security and safety.

As a Director, I led, facilitated, sponsored, and supervised:

...staff and training development, role and responsibility definition, change management, process feedback collection, process staffing, and compliance activities for roles within my portfolio. I also contributed to the routine smooth-functioning of my department by negotiating timelines, commitments, staffing, promotions, recovery plans, department-level strategy, direction-setting, and internal marketing efforts with peers and other more senior leaders.

Why this mattered: The decision to bet on “system safety”, which my leadership advanced, was a non-obvious choice that helped preserve the company through a period of significant growth and challenges including supporting the continuing well-functioning of the Web throughout the COVID-19 pandemic.

Selected Projects & Writings

As an Individual Contributor, I built, documented, and automated:

		languages	year
→ rainbow	an isolation shell for app sandboxing	Python, C	'08
→ olpc-update	a whole-OS atomic update algorithm + inspiration for →ostree	Python	'08
→ triagebot	a grammar-based IRC bot for release engineering coordination	Python	'08
→ dnshash	glibc NSS plugin for hashing DNS names to IPv6 addrs	C	'09
→ vscan	virus detection for large storage arrays, sold to a customer	C++	'10
log search	a scalable distributed system for searching PB of logs	Haskell	'11
incidents	a coordination and observability tool for incident responders	Go, R, Rust, JS	'14
codesearch	a precision search tool for engineers and incident responders	Go, bash	'14
→ focus	an experiment in real-time collaboration	Go → Rust	'15

As a Speaker, I presented:

	venue		year
“Why I Chose Python”	Cambridge Haskell Users' Group		'09
→ Systems Thinking + Web Security	MIT STAMP Workshop		'10
→ An Atlas of Systems	MIT STAMP Workshop		'13
“Keeping Watch”	Akamai Program Management Summit	<i>invited</i>	'17
→ System Safety ∩ Psychology	Tufts PSY 53, <i>Engineering Psychology</i>	<i>invited</i>	'18
→ STAMP at Akamai	MIT STAMP Workshop & internally	<i>invited</i>	'20